

Serial No. 09/829,314

Page 10 of 15

### **REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed November 22, 2005. In the Office Action, the Examiner notes that claims 1-35 are pending and rejected. By this response, Applicant has herein amended claims 1, 5-13, 17-28, 30-31, and 33-34. No new matter has been entered.

In view of both the amendments presented above and the following discussion, Applicant submits that none of the claims now pending in the application are obvious under the provisions of 37 C.F.R. §103.

It is to be understood that Applicant, by amending the claims, does not acquiesce to the Examiner's characterizations of the art of record or to Applicant's subject matter recited in the pending claims. Further, Applicant is not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

### **REJECTIONS**

#### **35 U.S.C. §103**

##### **Claims 1-35**

The Examiner has rejected claims 1-35 under 35 U.S.C. §103(a) as being unpatentable over Kwan (US Patent Application Publication No. 2003/0112796, hereinafter "Kwan") in view of Vargo (U.S. Patent No. 6,356,545, hereinafter "Vargo"). Applicant respectfully traverses the rejection.

In general, Kwan teaches voice and data exchange over a packet based network with fax relay spoofing. In particular, Kwan teaches lost packet recovery and frame deletion processing when packets arrive too late to be sequenced properly or are entirely lost. As taught in Kwan, packet recovery refers to methods used to hide distortions caused by the loss of voice packets. The missing voice is filled with synthesized voice using linear predictive coding modeling of speech. In particular, Kwan teaches that the voice is modeled using

414823-1

Serial No. 09/829,314

Page 11 of 15

the pitch and spectral information from digital voice samples received prior to the lost packet. (Kwan, Abstract; Para 0223-0225).

Kwan, however, fails to teach each and every element of Applicant's invention of at least claim 1. Namely, as admitted by the Examiner, Kwan fails to teach or suggest at least the limitation of adjusting the length of a first packet using at least one pitch period in response to a determination that said second packet arrives after the expected arrival time. Furthermore, Kwan is completely devoid of any teaching or suggestion of the limitation of "adjusting the length of the second packet according to the adjusted length of the first packet and an arrival time of a third packet received after the second packet," as taught in Applicant's invention of at least claim 1. Specifically, Applicant's claim 1 positively recites:

A method of processing a sequence of audio samples, each of said samples being stored within a respective packet, said method comprising:  
retrieving a first packet from an input buffer, said first packet having an associated length;  
determining pitch associated with audio information contained within said first packet;  
determining whether a second packet of said audio samples has arrived at said input buffer, said second packet having an expected arrival time and an associated length;  
in response to a determination that the second packet arrives after the expected arrival time, adjusting said length of said first packet using at least one pitch period associated with said pitch; and  
adjusting the length of the second packet according to the adjusted length of the first packet and an arrival time of a third packet received after the second packet.  
[Emphasis added.]

The Applicant's invention teaches adjustment of the length of the packet currently being processed where a next packet has not timely arrived to the input buffer (i.e., has arrived after an expected arrival time of the second packet). As taught in Applicant's invention of at least claim 1, the adjustment of the length of the packet is performed using at least one pitch period associated with the pitch of the audio information contained within the packet being processed. The length of the packet currently being processed is extended or reduced to compensate

Serial No. 09/829,314

Page 12 of 15

for the delay time of receiving the next packet. Furthermore, Applicant's invention adjusts the length of a second packet according to the adjusted length of the first packet and an arrival time of a third packet received after the second packet.

By contrast, Kwan teaches a lost packet recovery engine which replaces missing voice with synthesized voice using the linear predictive coding model of speech. In particular, the Kwan reference discloses that the "algorithm uses previous digital voice samples or a parametric representation thereof, to estimate the contents of lost packets when they occur. Using the parameters determined from the voice analysis, one frame of voice is synthesized 201." (Kwan, Para. 0225-0230, Emphasis added). In other words, the Kwan reference teaches creation of an entirely new frame to replace a lost frame (i.e., packet). The lengths of frames in Kwan are simply not adjusted. In fact, the frames in Kwan are not modified in any manner. Rather, information associated with the frames is used for synthesizing new frames to replace lost frames. The creation of an entirely new frame to replace a missing frame, as taught in Kwan, is simply not adjustment of the length of a packet, as taught in Applicant's invention of at least claim 1.

Furthermore, Vargo fails to bridge the substantial gap between the Kwan reference and Applicant's invention. In general, Vargo discloses a technique for eliminating dead air spaces in a voice data transmission stream by speeding up or slowing down a buffer data rate. (Vargo, Abstract). Although Vargo mentions varying the length of packets, Vargo merely states that "[i]nstead of changing the packet redundancy, the voice port can also dynamically vary the packet size or bundling. The packet size may initially be 67 bytes, with 64 bytes of information and a three byte header. The packet bundling may be changed by bundling two 64 byte packets together with a 3 byte header to give a 131 byte packet. Or, the packet size can be changed from 64 bytes to 32 bytes of information to give a 35 byte packet, including a 3 byte header." (Vargo, Col. 7, Lines 6-12).

In other words, although Vargo mentions that the length of the packet may be varied, Vargo is completely devoid of any teaching or suggestion of a method

Serial No. 09/829,314

Page 13 of 15

by which the length of the packet may be varied. Rather, Vargo merely makes a conclusory statement that the length of a packet may be varied. Vargo is completely devoid of any teaching or suggestion of adjusting the length of a packet using at least one pitch period associated with a pitch of the audio information included within the packet, as taught in Applicant's invention of at least claim 1. Similarly, Vargo is completely devoid of any teaching or suggestion of adjusting the length of a packet according to an adjusted length of a previously adjusted packet. Furthermore, Vargo is completely devoid of any teaching or suggestion of adjusting the length of a packet according to an arrival time of a subsequent packet received after the packet being adjusted.

In the Office Action, the Examiner cites a specific portion of Vargo (Col. 11, Lines 34-52) for teaching the packet length adjustments of Applicant's invention of at least claim 1. Specifically, the Examiner cites "stretching the data remaining in the buffer" for teaching the packet length adjustments of Applicant's invention of at least claim 1. (Office Action, Pg. 3). The cited portion of Vargo, however, refers to the rate at which packets are read from the buffer, not to any adjustments to the lengths of the packets in the buffer. In other words, as taught in Vargo, stretching the data remaining in the buffer involves reducing the rate at which the packets are read from the buffer. Applicant respectfully submits that the Examiner is using the phrase "stretching the data" from the cited portion of Vargo out of context.

In particular, the cited portion of Vargo specifically states that "the software further contains a utility that senses when the data buffer becomes depleted, and stretches the data reaching the ear of the listener in a manner opposite to the technique utilized in television commercials and radio voiceovers to speed up the data rate. Effectively, the algorithm contains a lever that measures the number of packets in the buffer, and, without changing pitch, speeds up or slows down the data rate without changing pitch corresponding to the pool depth." (Vargo, Col. 11, Lines 42-50, Emphasis added). In other words, it is quite clear that the portion of Vargo cited by the Examiner in the Office Action

Serial No. 09/829,314

Page 14 of 15

refers to adjustments to the data rate at which packets are read from the buffer, not adjustments to the lengths of the packets read from the buffer.

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 USPQ 416, 420 (Fed. Cir. 1986) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). Kwan and Vargo alone or in combination fail to teach or suggest Applicants' invention as a whole.

As such, Applicant submits that independent claim 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, independent claims 13, 25, 26, and 27 recite features substantially similar to the features of claim 1. Accordingly, for at least the reasons discussed above with respect to claim 1, claims 13, 25, 26, and 27 are non-obvious and are patentable over Kwan and Vargo, alone or in combination, under 35 U.S.C. §103(a).

As such, Applicant submits that independent claims 1, 13, 25, 26 and 27 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 2-12, 14-24 and 28-35 depend, either directly or indirectly, from independent claims 1, 13, 25, 26 and 27 and recite additional features therefor. As such and at least for the same reasons as discussed above, Applicant submits that these dependent claims are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicant respectfully requests that the rejection be withdrawn.

Serial No. 09/829,314  
Page 15 of 15

### SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicant's disclosure than the primary references cited in the Office Action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

### CONCLUSION

Thus, Applicant submits that the pending claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Michael Bentley at (732) 383-1434 or Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

2/3/06

E J Wall

Eamon J. Wall, Attorney  
Reg. No. 39,414  
(732) 530-9404

Patterson & Sheridan, LLP  
Attorneys at Law  
595 Shrewsbury Avenue, Suite 100  
Shrewsbury, New Jersey 07702